

Notice of Allowability

Application No.

09/972,163

Examiner

Hai Vo

Applicant(s)

ALBERT ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing of 06/30/2005.
2. ☒ The allowed claim(s) is/are 1-16,19-38,40,41,43-85,90-93,95-112,114-116,118-126,128 and 140-151.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 0803.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Nina R. Horan on 7/29/2005.

The application has been amended as follows:

The claims:

Claim 21: line 2, delete "claim" and insert -- claims --.

Claims 22-24: line 1, delete "claim" and insert -- any one of claims -- after "according to".

Claim 37: line 1, delete "A" and insert --An organic-- before "small pore area material".

Claim 40: line 1, delete "A" and insert --An organic-- before "small pore area material".

Claims 98-100: line 1, insert -- any one of -- after "according to".

Claim 115: line 1, delete "A" and insert --An organic-- before "low density microcellular material".

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: Note that Applicants' amendment and Examiner's amendment are sufficient to overcome the

art rejections and double patenting rejections and sufficient to place the instant claims in condition for allowance. The organic small pore area material is defined as a foam having a density less than about 1000kg/m³ and a pore area less than about 500 μm^2 (page 14, lines 13-15 of the specification). With regard to claims 1 and 2, Unger et al (US 5,494,940) discloses an organic aerogel having a density within the claimed range. However, there is no evidence that the pore size of the aerogel can be made higher than 55 nm according to the process disclosed in the Unger invention (see figure 4, column 4, lines 5-9, and 14-20) because to do so will collapse the cellular structure of the aerogel. Hrubesh et al (US 6,005,012) discloses both inorganic and organic aerogels. However, there is no evidence that the organic aerogels can be made with the smallest dimension greater than about 3 inches in accordance with the technology disclosed in the Hrubesh invention.

With regard to claims 37, 40 and 115, the solvent acetic acid remains in the aerogel and being incorporated into the structure of the aerogel to strengthen the aerogels by way of the hydrogen-bonding mechanism (page 54, lines 15-20 of the specification). Yokogama (US 5,830,387) discloses an aerogel treated with an acetic acid to form a hydrobobic aerogel. The acetic acid of Yokohama is not incorporated into the structure of the aerogel but rather converted into the ester group during the esterification to render the aerogel hydrophobic. Klett et al (US 6,037,032) discloses the carbon foam filled with an acetic acid. Like Yokogama, Klett does not disclose the acetic acid incorporated into the structure of the aerogel to strengthen the aerogels by way of the hydrogen-bonding mechanism. None of the

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prior art taken alone or in combination teaches or suggests the organic small pore area material comprising a carboxylic acid (acetic acid) incorporated into the structure of the small pore area material as required by the claims.

Conclusion

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai Vo

**HA VO
PRIMARY EXAMINER**